CHAPTER 1

PURPOSE OF THE ENVIRONMENTAL REPORT

TABLE OF CONTENTS

Page

List of Figures

List of Maps

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Introduction

The Bureau of Land Management (BLM), an agency of the U.S. Department of the Interior (USDI), manages vegetation on nearly 261 million acres in 17 states in the western U.S., including Alaska (pubic lands; treatment area; Map 1-1). These lands encompass approximately 1 out of every 5 acres from the Rocky Mountains to the Pacific Ocean. Management and control of vegetation for resource and habitat enhancement is accomplished using a variety of treatment methods, including, but not limited to: herbicides, prescribed fire and wildland fire use for resource benefit (collectively termed "fire use"), manual and mechanical methods, and biological controls such as insects, pathogens, fish, and domestic grazing animals.

In recent years, the severity and intensity of wildfires in the West has increased dramatically from levels in the 1970s and 1980s. Although the recent increase in wildfires is directly related to drought conditions throughout the western U.S., it is also influenced by changes in the vegetation on public lands that have occurred during the past 50 years and have resulted in increases in hazardous flammable fuels. As the population has increased in the western U.S., the loss of life and property has also increased as more people live in close proximity to public lands in areas now referred to as the wildland urban interface (WUI).

Much of the change in vegetation and increase in hazardous fuels on public lands can be attributed to fire exclusion policies over the past 100 years. Contributors to this change include natural influences, such as intermittent and long-term drought over the past 40 years. They also include anthropogenic influences, such as alteration of vegetation and habitat at the local and landscape levels through authorized uses on public lands (e.g., livestock grazing and timber management), full fire suppression policies to protect infrastructure and vegetative resources, and the increased spread of noxious weed species and invasive vegetation.

Some noxious weeds and other invasive vegetation, such as downy brome[1] (also known as cheatgrass), act as hazardous fuels in upland landscapes. Downy brome is a self-perpetuating winter annual that spreads easily across upland landscapes altered by fire, through a prolific seed source. Wind and soil erosion transport the seed over wide areas and into previously undisturbed habitats.

Invasive vegetation and noxious weeds are highly competitive and can often out-compete native vegetation, especially on recently disturbed sites. Invasive vegetation and noxious weeds are the dominant vegetation on an estimated 35 million acres of public lands (USDI BLM 2000a). The estimated rate of weed spread on western public lands in 1996 was 2,300 acres per day (USDI BLM 1996). Invasive vegetation and noxious weeds degrade or reduce soil productivity, water quality and quantity, native plant communities, wildlife habitat, wilderness values, recreational opportunities, and livestock forage, and are detrimental to the agriculture and commerce of the U.S. and to public health (National Academy of Sciences 1968, USDI BLM 2000b). Weed infestations can become permanent if left untreated.

In response to the threats of wildfire and invasive vegetation and noxious weeds, the President and Congress have directed the USDI and BLM, through implementation of the *National Fire Plan* (USDI and U.S. Department of Agriculture [USDA] Forest Service 2001), and the *Healthy Forests Restoration Act of 2003*, to take more aggressive actions to reduce catastrophic wildfire risk on public lands. The actions would be taken to protect life and property, and to manage vegetation in a manner that provides for long-term economic sustainability of local communities, improved habitat and vegetation conditions for fish and wildlife, and other public land uses. As a result of these actions, the amount of hazardous fuels reduction and other

[1] Common and scientific names of plants and animals given in this PER are provided in Appendix A.

vegetation management work conducted by the BLM is expected to increase from current levels to about 6 million acres annually.

The BLM last assessed its use of vegetation treatment methods during the late 1980s and early 1990s, by preparing Environmental Impact Statements (EISs) and Records of Decision (RODs) that covered vegetation treatment activities in 14 western states in the continental U.S. (all states shown on Map 1-1, except Alaska, Nebraska, and Texas; USDI BLM 1985; 1987a, b; 1988a, b; 1989; 1991a, b; 1992a). The previous EISs primarily focused on vegetation control of competing and unwanted vegetation for resource enhancement (forestry and rangelands), noxious and invasive weed control related to surface use activities (oil and gas, rights-of-way [ROW]), and reduction of hazardous fuels to protect resources at risk from wildfire damage. These EISs evaluated the environmental impacts associated with vegetation control and modification on approximately 500,000 acres of public lands a year in the western U.S. The EISs also evaluated the human health and non-target species risks of using 22 herbicide active ingredients (a.i.) on these public lands.

Organization of the Vegetation Treatments Assessments

The BLM's assessment of vegetation treatment activities on public lands consists of two interrelated parts—this *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report* (PER), which evaluates the effects of non-herbicide vegetation treatments, and a *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (PEIS; USDI BLM 2007a), which analyzes the impacts of using herbicides on public lands. This organization was selected because the primary issue of controversy identified through scoping, and which required National Environmental Policy Act (NEPA) review, was the BLM's continuing and proposed increase in the use of herbicides in vegetation treatment programs needed to implement the *National Fire Plan* and related initiatives. The use of herbicides has been affirmed as a central issue for analysis in all past EISs.

The use of the other non-herbicide techniques in an integrated pest management approach has been affirmed in all previous EISs Records of Decision, and the BLM will continue to use non-herbicide vegetation treatment methods.

Terminology

Active ingredient (a.i.) is the chemical or biological component that kills or controls the target pest.

Fire use a term not used in federal fire policy. It is used in the context of the PEIS/PER to refer to prescribed fire or wildland fire use to meet resource objectives.

Hazardous fuels include living and dead and decaying vegetation that form a special threat of ignition and resistance to control.

Herbicide is a chemical pesticide used to treat vegetation.

Invasive plants are plants that are not part of (if exotic), or are a minor component of (if native), the original plant community or communities that have the potential to become a dominant or co-dominant species on the site if their future establishment and growth are not actively controlled by management interventions, or are classified as exotic or noxious plants under state or federal law. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants.

Native species historically occurred or currently occur in a particular ecosystem and were not introduced.

Noxious weeds are designated by federal or state law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or non-native, new, or not common to the U.S.

Prescribed fires are any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements (where applicable) must be met, prior to ignition.

Undesirable plants are species classified as undesirable, noxious, harmful, exotic, injurious, or poisonous under state or federal law, but not including species listed as endangered by the Endangered Species Act (ESA), or species indigenous to the planning area.

Weeds are plants that interfere with management objectives for a given area at a given point in time.

Wildfires are unplanned, unwanted wildland fires including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.

Wildland fires are any non-structure fires that occur in the wildland. Three distinct types of wildland fire have been defined and include wildfire, wildland fire use, and prescribed fire.

Wildland fire use fires are the application of the appropriate management response to naturally-ignited wildland fires to accomplish specific resource management objectives in pre-defined designated areas outlined in Fire Management Plans.

Wildland urban interface (WUI) is an area where structures and other human development intermingle with undeveloped wildlands or vegetative fuels.

Although more acres are proposed for treatment under all methods than were identified in previous EISs, the BLM has determined that additional analysis of treating these acres under non-herbicide methods in the PEIS is unnecessary. Congress and the Administration made the decision for federal agencies to treat more acres to reduce the threat of catastrophic fire. The PEIS and PER broadly estimated the acres that could be potentially treated under each method for analysis purposes in the PEIS. The acre totals used in the programmatic analysis are not site-specific as to locations or method(s) used. As identified below in Chapter 2, current land use plans guide the level of treatment activity necessary to meet broad goals and objectives for vegetation. It is anticipated that acres identified for treatments in land use plans and step down activity level plans would be modified in the future as they are revised or amended to reflect the increase in activity mandated by Congress, and that those plans will provide the necessary NEPA analysis to support increased acres of treatment.

Treatment of vegetation is not a static disturbance that accumulates over time. Vegetation treatments are dynamic and typically show results within the first 2 growing seasons. Once vegetation objectives are met, the projects are maintained over time, resulting in viable and resilient vegetation communities over the long term. As more acres are treated, more acres of vegetation meet management objectives as outlined in local land use plans. Projects implemented over the last 10 to 20 years typically have met their objectives and become part of the baseline for analysis of new projects. Because of this dynamic continuum of treatment, revegetation, monitoring, and maintenance, the BLM does not anticipate there would be any different or significant impacts identified beyond what has been analyzed in previous EISs.

This PER discloses the general effects on the environment of using non-herbicide treatment methods, including fire use, and mechanical, manual and biological control methods, to treat hazardous fuels, invasive species, and other unwanted or competing vegetation.

The PEIS analyzes the effects of herbicide use on humans, plants, and animals and other environmental and social resources associated with public lands. This analysis will provide the basis for a programmatic Endangered Species Act (ESA) Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) on herbicide use, and the potential impacts of herbicide use on plant and animal species of concern.

The PEIS provides an updated analysis of impacts (direct, indirect, and cumulative) to public land environmental and socioeconomic resources from proposed vegetation treatment activities utilizing herbicides. The PER is linked to the PEIS in the cumulative impact analysis of the PEIS, where all methods of treatment, including the use of herbicides, are assessed.

Program Objectives and Goals

To maintain and improve the effectiveness of its vegetation management practices, this PER supports the BLM's intent to continue to use, and increase the use of, a variety of fire and non-fire treatment methods to reduce hazardous fuels, control unwanted vegetation, and improve habitat and resource conditions. These actions will be accomplished primarily through the proactive use of herbicides, prescribed fire, wildland fire for resource benefit, manual and mechanical methods, and biological controls that have been approved for use on public lands through previous EISs addressing vegetation control.

This PER provides BLM field offices with information needed to 1) assess and reduce the risk of catastrophic wildfires on public lands and in the WUI; 2) slow the spread of invasive plant species noxious weeds, and other unwanted, undesirable, or competing vegetation (unwanted vegetation); 3) improve ecosystem health by restoring fire-adapted ecosystems; 4) identify and implement best management practices; and 5) understand cumulative effects of treatment activities.

Background

Today, more than 63 million people live in the western U.S., and growth rates in 9 western states exceeded 20% or more during the past decade. As growth continues, there is also an increasing demand from the public to protect and preserve clean air and water, open space, and habitat for threatened and endangered species. This dramatic growth in the human population has placed increasing demands on the BLM to manage its resources to meet human needs while protecting the environment and maintaining the health of the land.

In recent years, the severity and intensity of wildfires in the West has increased dramatically from levels in the 1970s and 1980s. The 2004 fire season was one of the

worst fire seasons on record, with over 3.6 million acres of public lands burned by wildfires (Figure 1-1). Although the recent increase in wildfires is directly related to drought conditions throughout the West, it is also influenced by changes in the vegetation on public lands that have occurred during the past 100 years and have resulted in increases in hazardous flammable fuels. With the concurrent population growth in the western U.S., the loss of life and property has also increased as more people live in close proximity to public lands in the WUI.

Western U.S. forests have experienced significant changes in vegetation and structure over the past century. Over the last 50 years, the BLM and other federal agencies with wildland fire responsibilities put out wildfires as quickly as possible to protect life and property. This practice, referred to as "full suppression," has resulted in long-term fire exclusion from landscapes historically adapted to fire. In forested ecosystems, severe wildfires kill large, old trees that have survived multiple fires in the past and, in many cases, provide the seed necessary to regenerate the forest. They also remove important ground cover, which leaves these areas exposed to severe erosion and the invasion of exotic plant species.

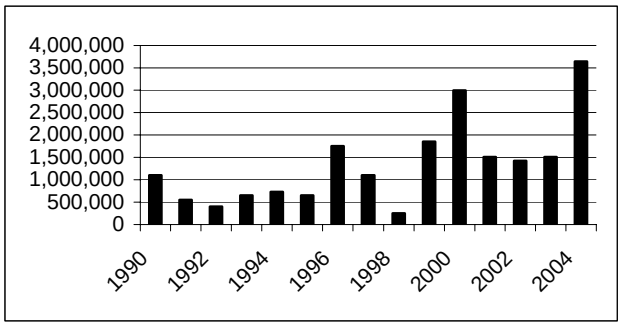

Figure 1-1. Acres of Public Land Burned Annually by Wildfires since 1990.

As a result, western U.S. forests are currently denser and dominated by late-seral, fire-intolerant species, and are experiencing unprecedented insect and disease outbreaks. The result is not only more frequent and more intense wildfires, but also more catastrophic effects from these fires. Today, wildfires often result in nearly complete mortality of all the trees regardless of tree size or species. The size of these fires are reaching unprecedented levels, often destroying fish and wildlife habitat, damaging water quality, and sterilizing soils that are vital to reestablishment of native forest conditions. Forests are also experiencing an invasion of exotic plant species in their understories that reduce their quality as wildlife habitat and provide fine material that promotes the rapid spread of wildfire.

Western U.S. grasslands and shrublands have experienced similar changes in vegetation as forestlands over the past century. Drought conditions and wildfires have burned millions of acres of grasslands and shrublands, and often non-native vegetation and noxious weeds have replaced native vegetation in burned areas (USDI BLM 2001a). Since annual grasses, in particular, cure quickly and carry fire faster, the areas they dominate become more prone to burn and the weed-fire-weed cycle is perpetuated. Monocultures of downy brome and other unwanted vegetation provide fewer habitat, water quality, and recreation benefits than areas with native vegetation. In other areas, fire control efforts have allowed less fire tolerant species, such as pinyon-juniper, to dominate in areas where fire once controlled their spread, often resulting in the loss of grassland and shrubland habitat.

The attention paid to wildland fire has changed dramatically over the last several years. A 1999 report from the U.S. Government Accounting Office (GAO) found that fuel build up was a major problem in the western U.S. and recommended that the Forest Service develop a cohesive strategy to restore and maintain ecosystem health in fire-adapted ecosystems in the western U.S. focusing on "short-interval" fire adapted ecosystems (GAO 1999, USDA Forest Service 2000).

One result of this strategy was the identification of fire regime and condition classes for federal lands in the continental U.S. The fire regime condition class (FRCC) concept is used to describe both the historic fire regime and the degree of departure. FRCC uses five fire regime groups to classify the historic fire frequency and severity for a given plant community. In addition, FRCC uses three broad condition classes to explain the degree of departure from the native fire regime. These condition classes range from 1 to 3, with the risk of loss of key ecosystem components from unwanted wildland fire increasing from Fire Regime Condition Class (FRCC) 1 (lowest risk) to FRCC Class 3 (highest risk).

Upon completion of the Forest Service cohesive strategy, the USDI (including the BLM) began work on an interdepartmental strategy to expand this framework seamlessly across the federal wildland fire management agencies. This effort identified actions that are included in the current BLM effort to reduce hazardous fuels and reintroduce fire into fire-adapted ecosystems.

Following the fire season of 2000, the Presidential Report entitled *Managing the Impacts of Wildfires on Communities and the Environment* (USDA and USDI 2000a), was completed in response to a request from the President to determine how best to respond to the severe fire season. Key recommendations from this report included:

- Providing additional firefighting resources;
- Restoring damaged landscapes and communities;
- Increasing investment to reduce fire risk with an emphasis on multi-jurisdictional efforts; and
- Working directly with local communities at risk to improve community fire fighting capacity and coordination, implementing fuel reduction projects, and expanding education and risk mitigation efforts in the WUI.

This report provided the basis and conceptual framework for the *National Fire Plan* (USDI and USDA 2001) and *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan* (USDI and USDA 2006a).

The *National Fire Plan* is a long-term, multi-faceted strategy designed to manage the impact of wildland fire to communities and ecosystems and to reduce wildfire risk. In addition to the BLM, this plan encompasses the Forest Service and the other land management agencies within the USDI with wildland fire management responsibilities (National Park Service, USFWS, and the Bureau of Indian Affairs). The 10-Year Comprehensive Strategy Implementation Plan extended the concepts of the President's report and the *National Fire Plan* into a broader, collaborative effort involving the Western States Governors Association. Specific actions of this plan included:

- Improving fire prevention and suppression efforts;
- Reducing hazardous fuels;
- Restoring fire-adapted ecosystems; and
- Promoting community assistance.

In August of 2002, the President introduced the *Healthy Forests Initiative*. This initiative is designed to facilitate projects that reduce wildfire hazard and risk by making decisions in a more timely and efficient manner. The initiative has legislative and administrative components that were put into law by the *Healthy Forests Restoration Act of 2003*.

The BLM presently treats about 500,000 acres annually to reduce wildfire risks from hazardous fuels. To respond to the goals of the *National Fire Plan*, the BLM proposes to increase hazardous fuels reduction (HFR) work by approximately 3 million acres annually (to 3.5 million acres annually) to reduce the risk of wildfire to life and property. This work would require use of fire and non-fire vegetation treatment methods to reduce the risk of catastrophic wildfire and to reintroduce fire as an essential ecosystem component and process. This HFR work would be focused on lands with "abnormal" fire cycle conditions characterized by high intensity fire events with loss of resources and resource damage, including life and property.

In response to catastrophic and resource damaging wildfire, the BLM restores approximately 1.5 million acres of wildfire-damaged lands annually under its Burned Area Emergency Stabilization and Rehabilitation program. Activities conducted under this program include the stabilization of soils and reseeding of fire-damaged areas, in addition to the use of herbicides to prevent the establishment of invasive species, such as downy brome, in those areas where there may be a risk of post-fire invasion of weeds and other invasive species.

In addition to the work identified to reduce hazardous fuels and conduct post-fire stabilization and rehabilitation, approximately 1 million acres of vegetation treatments are conducted annually through other BLM resource programs. These programs are discussed in Chapter 2 and are responsible for controlling weeds and invasive species; modifying forest composition and structure to lessen insect and disease mortality; improving fish and wildlife habitat, including that of threatened and endangered species; improving riparian and wetland areas; and improving water quality in priority watersheds.

The BLM faces many challenges in managing for healthy lands. The Federal Land Policy and Management Act (FLPMA) requires that public lands under the BLM's jurisdiction be managed for a variety of uses, including recreation, grazing, timber harvesting, and energy and mineral development, while ensuring that important environmental, historic, cultural, and scenic values are protected. These uses do cause impacts to the land which can lead to declines in the overall health of the land. As a result, the BLM strives

to attain a balance between the use of the land under its jurisdiction, and the protection of the environmental, historic, cultural, and scenic values that are so important to the American public. To ensure this protection of values, the FLPMA further directs the BLM, through authority granted the Secretary of the Interior, to take any action necessary to prevent unnecessary or undue degradation of lands.

Recognizing that human use can impact public lands, the BLM is committed to the multiple use mandates identified in FLPMA. The ability of BLM land managers to limit the threats and risks to healthy landscapes, to use vegetation treatment and other management techniques to restore degraded lands, and to maintain lands that are healthy, will determine the success of the BLM in meeting its land management responsibility. Because healthy lands are more resilient to environmental fluctuation and disturbance than degraded lands, they are better able to sustain consumptive uses such as livestock grazing, woodland products harvesting, hunting and fishing, and other recreational activities on a long-term basis. In this regard, vegetation treatment is a critical component of restoring and maintaining the health of the land, which in turn, is critical to providing long-term sustainability of resource outputs, as mandated by FLPMA.

Scope of Report

This PER discusses the effects of treating vegetation on approximately 6 million acres of public lands annually in the western U.S. and Alaska. These lands include areas of critical environmental concern, Oregon and California Land Grant lands, Coos Bay Wagon Road lands, and lands administered by the BLM through its National Landscape Conservation System, such as wilderness study areas, designated Wilderness, National Monuments, National Recreation Areas, and National Conservation Areas.

The focus of this PER is to provide the methods, techniques, and tools of vegetation treatment to reduce hazardous fuels, improve rangeland health, and manage and control vegetation affecting other resources. This PER will not, however, discuss vegetation treatment activities that are not directly related to the need to reduce hazardous fuels, or to control vegetation to improve rangeland and forestland health. Thus, this PER will not consider vegetation management that is focused primarily on commercial timber or other forest product enhancement or use activities that are not related to improving forest health, HFR, or work authorized under the *Healthy Forests Restoration Act of 2003*.

This PER will not include policies and programs associated with land use activities authorized by the BLM, such as livestock use, off-highway vehicle (OHV) use, and timber harvesting, and will not make land use allocations nor amend approved land use plans (Federal Register 2002). Human-related activities and natural processes have inherent risks and threats to the health of the land, which can lead to the decline of plant communities and ecosystems. Although this PER refers to activities consistent with the authorities under FLPMA and other statutes that may contribute, in some cases, to land and resource degradation (e.g., livestock grazing, OHV use, recreation), its focus is on proactive vegetation treatments to maintain and restore ecological conditions.

Commercial timber activities conducted with the primary purpose of providing a sustained-yield of timber volume to commercial industries are not included in this PER. Rather they are a form of vegetation harvest, as the species (product) is removed and replanted for future harvest. Commercial timber allocations and sustainable harvest have been previously analyzed in BLM resource management plan EISs for the field offices with timber programs.

Although this PER addresses vegetation treatments, it will not directly address any other aspects of the livestock grazing program, including forage production or the effects of livestock grazing on vegetation. The effects on vegetation that result from livestock forage use on public lands have been analyzed in previous EISs, at the national level (USDI BLM 1994) and at the local land use planning level, in either resource management plan EISs or as individual EISs or environmental assessments (EAs) at the field office level as well as at the allotment-specific level.

This PER will not address abandoned mine land reclamation, or energy production. Abandoned mine land reclamation is a form of site stabilization and remediation that does not necessarily involve vegetation treatment activities, although in some cases vegetation treatments may be associated with site stabilization. The scope of analysis for the overall use of herbicides and other methods of control would sufficiently cover their use in these types of activities.

This PER will not address fire suppression operations, as they do not constitute vegetation treatment actions. This PER will address soil stabilization only where

specifically related to the vegetation treatment activities. Soil stabilization effects are related to post-fire emergency stabilization (activities undertaken within 1 year of the fire control date) and rehabilitation (treatments applied up to 3 years after the fire control date).

Determination of Treatment Acreages

As discussed earlier, the BLM has been mandated under a variety of statutes and policy initiatives to increase the number of acres of vegetation treated annually to address the issues of catastrophic fire and invasive species spread and their relationships to habitat improvement and maintenance of healthy landscapes. The BLM estimates that approximately 6 million acres would need to be treated annually to meet these mandates. Acres to be treated by the BLM and assessed in this PER were estimated based on information provided by BLM field offices throughout the western U.S., including Alaska. Each field office was asked to estimate and summarize proposed vegetation treatment projects likely to occur during the next 10 years. For each project, the field office provided an estimate of the number of acres proposed for treatment, the general vegetation type(s) proposed for treatment, and the vegetation treatment method(s) proposed to be used. In many cases, multiple treatment methods were identified for a particular type of project. Treatments could occur on the same acres several times during 1 year, or over several years. Based on these surveys, field offices identified approximately 4.6 million acres of treatments would be needed annually.

The BLM also reviewed FRCCs and concluded that an additional 1.4 million acres of treatments beyond the estimates provided by the field offices for work likely to occur over the next 10 years would be required annually. This work would be focused on those areas of vegetation exhibiting FRCC 3 characteristics in the effort to meet national goals of transitioning FRCC 3 areas towards FRCCs 2 and 1.

As a result of these surveys and reviews, an estimated 6 million acres would need to be treated annually. Approximately 3.5 million acres would be treated primarily for HFR and to control wildfires in the WUI, approximately 1 million acres would be treated to control unwanted vegetation to restore ecosystem health, and about 1.5 million acres a year would be subject to Burned Area Emergency Stabilization and Rehabilitation efforts. Acres associated with Burned Area Emergency Stabilization and Rehabilitation treatments are dependent on the severity and extent of the fire season in any given year and may vary considerably from this average.

Documents that Influence the Scope of the PER

Much of the scope of this PER is based on several EISs that were prepared from 1985 through 1992 to evaluate the use of herbicides for vegetation treatment activities on public lands. These EISs include the *Northwest Area Noxious Weed Control Program EIS* (USDI BLM 1985), *Supplement to the Northwest Area Noxious Weed Control Program* (USDI BLM 1987b), *California Vegetation Management Final EIS* (USDI BLM 1988a), *Final EIS Vegetation Treatment on BLM Lands in Thirteen Western States* (USDI BLM 1991a), and *Final Record of Decision Western Oregon Program-Management of Competing Vegetation* (USDI BLM 1992a).

These documents identify vegetation treatment activities involving the use of herbicides in 14 western states and evaluate the risks of using 22 herbicide active ingredients. Where appropriate, information in these documents that is relevant to the assessment of BLM vegetation treatment practices is cited and incorporated by reference.

Other documents and policies that influence the scope of this PER include: 1) *National Fire Plan* (USDI and USDA 2001); 2) *Healthy Forests Restoration Initiative of 2002 and Healthy Forests Restoration Act of 2003* (Public Law 108-148); 3) Chapter 3 *(Interagency Burned Area Emergency Stabilization and Rehabilitation)* in BLM Manual 620 (*Wildland Fire Management*; USDI 2004); 4) *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan* (USDI and USDA 2006a); 5) *Protecting People and Sustaining Resources in Fire Adapted Ecosystems: A Cohesive Strategy* (USDA and USDI 2006b); 6) *Draft Interagency Burned Area Emergency Response Guidebook* (USDA and USDI 2006c); 7) *Interagency Burned Area Rehabilitation Guidebook* (USDA and USDI 2006d); and 8) *Draft Burned Area Emergency Stabilization and Rehabilitation Handbook* (H-1742-1; USDI BLM 2006a). These documents provide policy and guidance for hazardous fuels reduction and land restoration activities to reduce the risk of wildfires and restore fire-adapted ecosystems, and to rehabilitate and

restore lands damaged by wildfires. The BLM's *Partners Against Weeds: An Action Plan for the Bureau of Land Management* (USDI BLM 1996) and *Pulling Together: National Strategy for Invasive Plant Management* (USDI BLM 1998a) are national level strategies for invasive species prevention and management.

Numerous other BLM manuals and handbooks were also consulted when developing the PER. These are listed in Appendix B.

Relationship to Statutes, Regulations, and Policies

Federal Laws, Regulations, and Policies that Influence Vegetation Treatments

Several federal laws, regulations, and policies guide BLM management activities on public lands. The ***Federal Land Policy and Management Act of 1976 (FLPMA)*** directs the BLM to manage public lands "in a manner that will protect the quality of scientific, scenic, historic, ecological, environmental, air and atmospheric, water resources and archeological values" and to develop resource management plans (RMPs) consistent with those of state and local governments to the extent that BLM programs also comply with federal laws and regulations. The ***Taylor Grazing Act of 1934*** introduced federal protection and management of public lands by regulating grazing on public lands. The ***Oregon and California Grant Lands Act of 1937*** provides for the management of the revested Oregon and California and reconveyed Coos Bay Wagon Road grant lands for permanent forest production under the principle of sustained yield and for leasing of lands for grazing.

Several acts provide for management and control of invasive vegetation. Two weed control acts, the ***Carlson-Foley Act of 1968*** and the ***Plant Protection Act of 2000*** (Public Law 106-224; includes management of undesirable plants on federal lands) authorize the BLM to manage noxious weeds and to coordinate with other federal and state agencies in activities to eradicate, suppress, control, prevent, or retard the spread of any noxious weeds on federal lands. The ***Federal Noxious Weed Act of 1974*** established and funded an undesirable plant management program, implemented cooperative agreements with state agencies, and established integrated management systems to control undesirable plant species. The ***Noxious Weed Control Act of 2004*** established a program to provide assistance through states to eligible weed management entities to control or eradicate harmful, nonnative weeds on public and private lands. The ***Public Rangelands Improvement Act of 1978*** requires the BLM to manage, maintain, and improve the condition of the public rangelands so that they become as productive as feasible.

The BLM must comply with numerous federal laws that govern activities on public lands. ***The Clean Air Act***, as revised in 1990, would primarily govern prescribed fire smoke emissions, and requires the USEPA and states to carry out programs to assure attainment of the National Ambient Air Quality Standards (NAAQS). The ***Safe Drinking Water Act*** is designed to protect the quality of public drinking water and its sources. The ***Wilderness Act of 1974*** provides management directions to protect wilderness values and guides activities and permitted uses within these areas.

The Clean Water Act regulates discharges into waters of the United States, including wetlands. As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Based on a recent ruling by the USEPA (2006), an NPDES permit is not required for applications of herbicides directly to water in order to control aquatic vegetation, or for application of herbicides that are present over or near water, where a portion of the herbicide will unavoidably be deposited to the water in order to target the pest vegetation. The ruling does not apply to terrestrial herbicide applications that drift over and into waters of the U.S.; issues related to these applications are under review by the USEPA.

The USEPA regulates pesticides under two major federal statutes. The ***Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)*** establishes procedures for the registration, classification, and regulation of all pesticides. Before any pesticide may be sold legally, the USEPA must register it. The USEPA may classify a pesticide for general use if it determines that the pesticide is not likely to cause unreasonable adverse effects to applicators or the environment, or for restricted use if the pesticide must be applied by a certified applicator and in accordance with other restrictions. All the herbicides evaluated in the PEIS, except diflufenzopyr as a stand-alone active ingredient, are registered with the USEPA. Diflufenzopyr is approved as a formulation with dicamba and is labeled

as Distinct, but could not be used alone by the BLM until it is registered with the USEPA. All applicators that apply them on public lands (i.e., certified applicators or those directly supervised by a certified applicator) must comply with the application rates, uses, and handling instructions on the herbicide label, and where more restrictive, the rates, uses, and handling instructions developed by the BLM. Under the ***Federal Food, Drug, and Cosmetic Act***, the USEPA establishes tolerances (maximum legally permissible levels) for pesticide residues in food.

The ***Food Quality Protection Act of 1996*** changed the way the USEPA sets residue limits (tolerances) for pesticides on foods under the Federal Food, Drug, and Cosmetic Act, and the way the USEPA reviews and approves pesticides under FIFRA. Specifically, the Act mandated a single, health-based standard for all pesticides in all foods; provided special protections for infants and children; expedited approval of safer pesticides; created incentives for the development and maintenance of effective crop protection tools for American farmers; and required periodic reevaluation of pesticide registrations and tolerances to ensure that the scientific data supporting pesticide registrations will remain up to date in the future.

The ***Resource Conservation and Recovery Act (RCRA)*** regulates the disposal of toxic wastes, including the disposal of unused herbicides, and provides authority for toxic waste cleanup actions when there is a known operator. ***The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)*** regulates how to clean up spills of hazardous materials and when to notify agencies in case of spills.

Several laws pertain to the protection of plants and animals and their habitats. The ***Migratory Bird Conservation Act of 1929, as amended,*** makes it unlawful to directly, or indirectly, harm migratory birds. If the USFWS determines that migratory birds could be harmed by BLM vegetation treatment actions, the two agencies would develop a site-specific assessment and mitigation to prevent harm to these birds. ***The Endangered Species Act (ESA) of 1973*** provides for conserving endangered and threatened species of plants and animals. The ESA also requires that federal agencies consult with the USFWS and NMFS to ensure that any actions that they authorize, fund, or carry out are not likely to jeopardize the continued survival of a listed species or result in the adverse modification or destruction of its critical habitat. The ***Wild Free-Roaming Horse and Burro Act of 1971, as amended by the Public Rangelands Improvement Act of 1978*** provides for the management, protection, and control of wild horses and burros on public lands and authorizes the "adoption" of wild horses and burros by private individuals. The ***Fish and Wildlife Conservation Act of 1980*** encourages federal agencies to conserve and promote the conservation of non-game fish and wildlife species and their habitats. The ***Sikes Act of 1974*** authorizes the USDI to plan, develop, maintain, and coordinate programs with state agencies for the conservation and rehabilitation of wildlife, fish, and game on public lands.

Laws and acts that pertain to the protection of historic and cultural resources and the rights of Native American tribes and Alaska Native groups include the ***Historic Sites Act of 1935***, which provides for the preservation of historic American sites, buildings, objects, and antiquities of national significance. The ***National Historic Preservation Act (NHPA) of 1966*** requires federal agencies to take into account the potential affects of their actions on properties that are listed or are eligible for listing on the National Register of Historic Places (NRHP), and to consult with State Historic Preservation Officers (SHPOs), Indian tribes, and local governments regarding the effects of federal actions on historic properties. The ***Archeological Resources Protection Act of 1979*** prohibits the excavation, removal, damage, or other alteration or defacement of archaeological resources on federal or Indian lands without a permit. ***The American Indian Religious Freedom Act of 1978*** requires federal land managers to include consultation with traditional Native American or Alaska Native religious leaders in their management plans. The ***Native American Graves Protection and Repatriation Act of 1990*** recognizes the property rights of Native Americans and Alaska Natives in certain cultural items, including Native American and Alaska Native human remains and sacred objects. ***Section 810 of the Alaska National Interest Lands Conservation Act*** **(ANILCA)** addresses the effects of proposed activities on Alaska Native subsistence uses.

This PER follows the guidelines in several Executive orders (EOs). ***Executive Order 11990, Protection of Wetlands***, ensures that federal agencies minimize the destruction, loss, or degradation of wetlands, and enhance and preserve the natural and beneficial values of wetlands, when carrying out actions on federal lands. ***Executive Order 12898, Environmental Justice***, requires that federal agencies address the environmental justice of their actions on minority populations and on low-income populations. ***Executive Order 13045, Protection of Children from Environmental Health***

Risks and Safety Risks, ensures that federal agencies identify and assess the environmental health and safety risks that may disproportionately affect children. ***Executive Order 13084, Consultation and Coordination with Indian Tribal Governments*** directs federal agencies to respect tribal self-government and sovereignty, tribal rights, and tribal responsibilities whenever they formulate policies "significantly or uniquely affect Indian tribal governments." ***Executive Order 13112***, ***Invasive Species***, directs federal agencies to prevent the introduction of invasive species and provide for their control, and to minimize the economic, ecological, and human health impacts that invasive species cause. ***Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds***, requires that federal agencies that have, or are likely to have, a measurable negative effect on migratory bird populations develop a Memorandum of Understanding (MOU) with the USFWS that shall promote the conservation of migratory bird populations.

Relationships among Land Use, Land Use Planning, Land Health Standards, Ecosystem Functionality, and Vegetation Treatments

Land uses authorized by the BLM, such as livestock grazing, OHV use, timber harvest, and energy development, are guided by local land use plans such as RMPs, and Management Framework Plans (MFPs). Collectively, land use plans outline the specific resource goals and objectives and use allocations for a specific geographic area. The uses and allocations allowed by the land use plan are analyzed in the EIS associated with the development of the land use plan. Land use plans are developed to include the proposed action and alternatives that identify specific management strategies to meet particular national, regional, and local goals and objectives.

In addition to setting goals, objectives, and use allocations, land health standards and associated guidelines on how to meet standards are incorporated at the land use plan level (Figure 1-2). Land health standards are expressed as goals, common to all alternatives in the land use plan, and are applied regardless of the alternative selected.

In order to meet certain land use plan objectives, vegetation treatments are often used to reach desired states of vegetation or mixes of vegetation. For example, mechanical thinning and prescribed fire may be used to convert a monoculture of juniper with little understory to a more open savanna and mosaic vegetation pattern with a healthy understory of forbs and grasses to improve wildlife habitat.

It is important to understand that the land use plan will not necessarily address *how* the objective will be met. How the objective will be met is determined at the land use plan implementation level (project level) through further study and analysis. Temporary curtailment of uses authorized in a land use plan is within the authority and discretion of the authorized officer. However, permanent curtailment of uses requires a land use plan amendment.

Interrelationships and Coordination with Agencies

In its role as manager of nearly 261 million acres in the western U.S., including Alaska, the BLM has developed numerous relationships at the federal, tribal, state, and local levels, as well as with conservation and environmental groups with an interest in resource management, and members of the public that use public lands or are affected by activities on public lands.

As noted previously, several federal agencies administer laws that govern activities on public lands. Federal agencies, including the Department of Defense, the Department of Energy, the National Park Service, the USFWS, the Bureau of Reclamation, the Bureau of Indian Affairs, and the USDA Forest Service, administer lands adjacent to or in close proximity to public lands administered by the BLM, and have vegetation management issues that are similar to the BLM's. Other agencies, such as the Agricultural Research Service, the Animal, Plant, Health Inspection Service, the Natural Resource Conservation Service, and the U.S. Geological Survey Biological Services, play vital roles in coordination with national, tribal, state, county and private interests through their oversight and coordination responsibilities. These agencies and the BLM regularly coordinate on vegetation management and control efforts to benefit all federally-administered lands. Other local coordination includes the sharing of equipment, training, and financial resources, and developing vegetation management plans that cross administrative boundaries.

National Level Coordination

Invasive species management is coordinated by several groups at the national level. The National Invasive

Species Council was formed among several federal agencies per Executive Order 13112 to develop strategies to control invasive species on federal lands. Comprised of 16 federal agencies with direct invasive plant management responsibilities, the Federal Interagency Committee for the Management of Noxious and Exotic Weeds serves to coordinate invasive plant management activities in federal lands across the United States and its territories. A related committee is the Federal Interagency Committee on Invasive Terrestrial Animals and Pathogens, which consists of ten federal departments and agencies responsible for managing non-vegetative invasive species in terrestrial ecosystems. The BLM also coordinates with the Aquatic Nuisance Species Task Force, which is co-chaired by the USFWS and NMFS, and is responsible for coordinating efforts by the federal government and the private sector in controlling aquatic nuisance species. The BLM also produces national level strategies for invasive species prevention and management (e.g., *Partners Against Weeds: An Action Plan for the Bureau of Land Management* [USDI BLM 1996], and *Pulling Together: National Strategy for Invasive Plant Management* [USDI BLM 1998a]).

Fire and fuels management coordination involves both federal and state entities. The Wildland Fire Leadership Council is a cooperative, interagency organization dedicated to achieving consistent implementation of the goals, actions, and policies in the *National Fire Plan* and the *Federal Wildland Fire Management Policy*. The National Fire and Aviation Executive Board was established to resolve wildland fire management issues on an interagency level by improving coordination and integration of federal fire and aviation programs.

The National Interagency Fuels Coordination Group, chartered under the National Fire and Aviation Executive Board, was established shortly after the *National Fire Plan* in October of 2001 under the direction and guidance of the Department of the Interior's Bureau of Indian Affairs, BLM, USFWS, National Park Service, and USDA Forest Service. The primary purpose of the group is to provide leadership and coordination in uniting the Departments' resources and fire management programs under a common purpose for reducing risks to communities while improving and maintaining ecosystem health. The Group provides assistance and guidance in the development and implementation of an effective interagency fuels management program, which includes addressing risks from severe fires in WUI communities and restoring healthy ecological systems in other wildland areas.

The National Wildfire Coordinating Group provides coordination among the following agencies and their programs: USDA Forest Service; USDI BLM, National Park Service, Bureau of Indian Affairs, and USFWS; and the National Association of State Foresters. The BLM is also one of six federal agencies that provide scientific support for the management of fuels and wildland fires in the Joint Fire Science Program.

State and County Level Coordination

The BLM is required to coordinate with state and local agencies under several acts, including: the Clean Air Act, the Sikes Act, FLPMA, and Section 106 of the NHPA. The BLM coordinates closely with state resource management agencies on issues involving the management of public lands, the protection of fish and wildlife populations, including federal- and state-listed threatened and endangered species, invasive and noxious weeds, fuels and wildland fire management, and herbicide application. Herbicide applications are also coordinated with state and local water quality agencies to ensure treatment applications are in compliance with applicable water quality standards, and do not result in unacceptable surface or ground water contamination.

Local and state agencies work closely with the BLM to manage weeds on local, state, and federal lands, and are often responsible for weed treatments on public lands. The BLM participates in exotic plant pest councils, state vegetation and noxious weed management committees, state invasive species councils, county weed districts and weed management associations found throughout the West.

The Healthy Forests Restoration Act (HFRA) directs the USDA Forest Service and USDI BLM to develop an annual program of work for federal land that gives priority to authorized hazardous fuel reduction projects that provide for protecting at risk communities or watersheds. The recommendations made by Community Wildfire Protection Plans (described under Coordination in Chapter 2) are taken into account by the agencies in accordance with HFRA, which gives priority in allocating funding to communities that have adopted these plans, or that have taken measures to encourage willing property owners to reduce fire risk on private property (USDA Forest Service and USDI BLM 2004). All prescribed burning is coordinated with state and

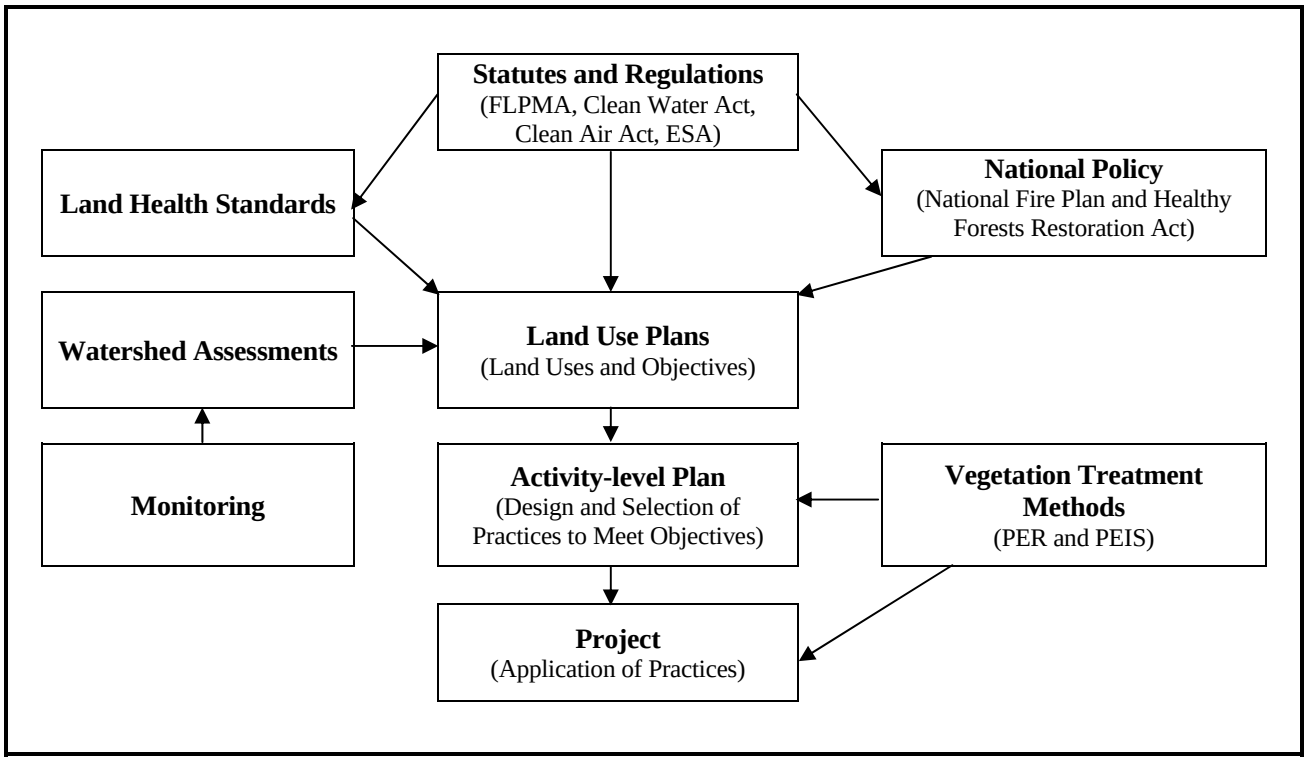

Figure 1-2. Relationships among Land Use Planning Activities and Vegetation Treatments PER and PEIS.

local air quality agencies to ensure that local air quality is not significantly impacted by BLM activities.

Non-governmental Organizations

The BLM coordinates at the national and local levels with several resource advisory groups and non-governmental organizations, including: BLM Resource Advisory Councils, the Western Governors' Association, the National Association of Counties, the Western Area Power Administration, the National Cattlemen's Association, the National Wool Growers Association, the Society of American Foresters, and the American Forest and Paper Association. The BLM also solicits input from national and local conservation and environmental groups with an interest in land management activities on public lands, such as The Nature Conservancy. These groups provide information on strategies for weed prevention, effective weed treatment methods, use of domestic animals to control weeds, landscape level planning, vegetation monitoring, techniques to restore land health, and methods to ensure that prescribed burning does not impact the safe operation of power transmission lines.

Cooperative Weed Management Areas

Cooperative Weed Management Areas (CWMAs) are composed of local, private, and federal interests. CWMAs typically center on a particular watershed or similar geographic area in order to pool resources and management strategies in the prevention and control of weed populations. Much of the BLM's on-the-ground invasive species prevention and management is done directly or indirectly through CWMAs. The BLM participates in numerous CWMAs throughout the west, several of which are showcase examples of interagency and private cooperation in restoring land health.

Consultation

As part of the PEIS, the BLM consulted with the USFWS and NMFS as required under Section 7 of the ESA (see Appendix C). The BLM prepared a formal initiation package that included: 1) a description of the program, listed threatened and endangered species, species proposed for listing, and critical habitats that may be affected by the program; and 2) a *Biological Assessment for Vegetation Treatments on Bureau of Land Management Lands in 17 Western States* (BA).

The BA evaluated the likely impacts to listed species, species proposed for listing, and critical habitats from the proposed use of herbicides and other treatment methods in its vegetation treatment program and identified management practices to minimize impacts to these species and habitats.

The BLM initiated consultation with Native American tribes and Alaska Native groups to identify their cultural values, religious beliefs, traditional practices, and legal rights that could be affected by BLM actions. This included sending out letters to all tribes and groups that could be directly affected by vegetation treatment activities, and requesting information on how the proposed activities could impact Native American and Alaska Native interests, including the use of vegetation and wildlife for subsistence, religious, and ceremonial purposes (see Appendix C).

The BLM conducted an ANILCA § 810 Analysis of Subsistence. During this process, the BLM invited public participation and collaborated with Alaska Natives to identify and protect culturally significant plants used for food, baskets, fiber, medicine, and ceremonial purposes. The findings required by ANILCA § 810 are given in Appendix H of the PEIS.

The BLM also consulted with SHPOs as part of Section 106 consultation under the NHPA to determine how proposed vegetation treatment actions could impact cultural resources. Formal consultations with SHPOs and Indian tribes also may be required during implementation of projects at the local level (see Appendix C).

Preview of Remainder of PER

Because this PER contains a broad range of information, Figure 1-3 shows the types of information found in the PER, and where it is located.

VOLUME 1

Chapter 1 Purpose of the Environmental Report
Summarizes the purpose and scope of analysis for the PER.

Chapter 2 Vegetation Treatment Programs, Policies, and Methods
Describes the BLM vegetation treatment programs, policies, and treatment methods.

Chapter 3 Public Land Resources
Presents existing natural and socioeconomic resources on public lands in the western U.S.

Chapter 4 Effects of Vegetation Treatments
Evaluates the effects of the vegetation treatments on public land resources in the western U.S. and describes standard operating procedures to minimize impacts to resources.

Chapter 5 References
Lists the documents and other sources used to prepare the PER.

Chapter 6 Glossary
Provides definitions for important terms used in the PER.

Chapter 7 Index
Lists where significant issues, resource descriptions, terms, and agencies and groups discussed in the PER are located.

Appendixes

A. Common and Scientific Names of Plants and Animals Given in the PER
B. BLM Reference Manuals and Handbooks Referred to in the PER
C. Consultation Agreements
D. Native American Resource Use
E. Cultural Resources
F. Special Status Species List

Acronyms, Abbreviations, and Symbols (fold-out at end of PER)
Lists the acronyms, abbreviations, and symbols used in the PER.

Related Reports

(on the CD located in the back pocket of PEIS Volume I)

1. Air Quality Modeling for BLM Vegetation Treatment Methods
2. Annual Emissions Inventory for BLM Vegetation Treatment Methods
3. Air Quality Policies Summary for the Vegetation Treatments PEIS and PER
4. Paleontological Overview for the Western United States

Figure 1-3
Organization of the Programmatic ER